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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,438	02/11/2004	Dong Wei	200314313-2	4801

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EXAMINER	
YANCHUS III, PAUL B	

ART UNIT	PAPER NUMBER
2116	

NOTIFICATION DATE	DELIVERY MODE
02/04/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/777,438	WEI, DONG	
	Examiner	Art Unit	
	PAUL B. YANCHUS III	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 November 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This final office action is in response to communications filed on 11/18/08.

For Applicant's convenience, a copy of the previous rejections is provided below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cutler et al., US Patent Application Publication no. 2004/0243534 [Cutler], in view of Hewlett-Packard, ACPI System Locality Information Table Interface Version 0.9 [Hewlett-Packard[1].

Regarding claim 1, Cutler discloses a method for providing updated ACPI table information during runtime comprising:

collecting system information at boot time to be provided to an operating system [paragraphs 0048, 0125 and 0129];

notifying the operating system that a triggering event has occurred, wherein said triggering event potentially alters said system information [paragraph 0134]; and

[1] Cited as "C" in IDS filed on 3/1/05.

providing updated system information during runtime to said operating system upon a request from said operating system [paragraphs 0134, 0135 and 0138].

Cutler discloses building ACPI information tables at boot time and updating those tables in response to events during OS runtime. Cutler does not disclose that the ACPI information tables hold system locality information. Hewlett-Packard discloses an interface to an ACPI table that stores system locality information [pages 3-4]. Hewlett-Packard also discloses that the ACPI system locality information table may be updated during runtime [page 4]. It would have been obvious to one of ordinary skill in the art to apply the Cutler ACPI table updating teachings to ACPI system locality information tables in order to enable an operating system to enhance its ability to process locality information to increase its performance on a non-uniform memory access (NUMA) system [Hewlett-Packard, page 3].

Regarding claim 2, Hewlett-Packard discloses creating a system locality information table [pages 3-4].

Regarding claim 3, Cutler discloses that an addition of a device to a system triggers the request for update [paragraphs 0134, 0135 and 0138].

Regarding claims 4 and 5, Hewlett-Packard discloses that the update of the table is provided to the operating system upon invocation of an ACPI object [page 4].

Regarding claims 6 and 7, Cutler discloses that an addition of a device to a system triggers the request for update [paragraphs 0134, 0135 and 0138].

Regarding claims 8 and 9, Cutler discloses that the removal of a device to a system triggers the request for update [paragraph 0048].

Regarding claims 10 and 11, Cutler discloses that the reconfiguration of the system triggers the request for update [paragraph 0048].

Regarding claims 12 and 13, Hewlett-Packard discloses that the update of the table is provided to the operating system upon invocation of an ACPI object [page 4].

Regarding claim 14, Cutler discloses creating a new table [0138].

Regarding claims 15-17, Cutler discloses adding or subtracting entries from an existing table during an update [paragraphs 0059 and 0130].

Regarding claim 18, Cutler discloses a computer program embodied on a computer readable medium for providing dynamically updated system information, the computer program causing a computer to perform the steps of:

creating an ACPI system information table, said system information table being populated with boot time system information [paragraphs 0048, 0125 and 0129]; and

updating said system information table upon receipt of a notification that a triggering event has occurred [paragraphs 0134, 0135 and 0138].

Cutler discloses building ACPI information tables at boot time and updating those tables in response to events during OS runtime. Cutler does not disclose that the ACPI information tables hold system locality information. Hewlett-Packard discloses an interface to an ACPI table that stores system locality information [pages 3-4]. Hewlett-Packard also discloses that the ACPI system locality information table may be updated during runtime [page 4]. It would have been obvious to one of ordinary skill in the art to apply the Cutler ACPI table updating teachings to ACPI system locality information tables in order to enable an operating system to enhance its ability to process locality

information to increase its performance on a non-uniform memory access (NUMA) system [Hewlett-Packard, page 3].

Regarding claim 19, Cutler further discloses that the computer program causes the computer to invoke a bus check notification upon an online addition of a device, wherein said bus check notification indicates to said operating system that a re-enumeration of a device tree needs to be performed, and wherein said operating system invokes a _SLI procedure that returns updated system locality information resulting from said online addition [paragraphs 0134, 0135 and 0138]; invoke an Eject Request notification upon an online deletion of a device, wherein said Eject Request notification indicates to said operating system that a re-enumeration of a device tree needs to be performed, and wherein said operating system invokes a _SLI procedure that returns updated system locality information resulting from said online deletion [paragraphs 0048, 0134, 0135 and 0138]; and invoke an SLI Update notification upon an online reconfiguration of said integrated processing system, wherein said SLI Update notification indicates to said operating system that a re-enumeration of a device tree needs to be performed, and wherein said operating system invokes a _SLI procedure associated with a device sending said SLI Update notification that returns updated system locality information resulting from said online reconfiguration [paragraphs 0048, 0134, 0135 and 0138].

Regarding claim 20, Cutler discloses an apparatus for updating ACPI system information comprising:

a system information table creator for creating a system information table coupled to an operating system, said system information table being populated with boot time system information [paragraphs 0048, 0125 and 0129];

a triggering event detector coupled to said operating system, said triggering event detector capable of detecting an occurrence of a triggering event [paragraph 0134]; and

a system information table updater coupled to said operating system and further coupled to said triggering event detector, wherein, upon a receipt of a notification of an occurrence of a triggering event from said triggering event detector, said system information table updater provides updated system information to said operating system [paragraphs 0134, 0135 and 0138].

Cutler discloses building ACPI information tables at boot time and updating those tables in response to events during OS runtime. Cutler does not disclose that the ACPI information tables hold system locality information. Hewlett-Packard discloses an interface to an ACPI table that stores system locality information [pages 3-4]. Hewlett-Packard also discloses that the ACPI system locality information table may be updated during runtime [page 4]. It would have been obvious to one of ordinary skill in the art to apply the Cutler ACPI table updating teachings to ACPI system locality information tables in order to enable an operating system to enhance its ability to process locality information to increase its performance on a non-uniform memory access (NUMA) system [Hewlett-Packard, page 3].

Response to Arguments

Applicant's arguments filed 11/18/08 have been fully considered but they are not persuasive. Applicant argues that there is no motivation to combine the Cutler and Hewlett-Packard references because the references teach away from each other. Specifically, Applicant argues that the principles of operation of the two references are different because the composite database of information in Cutler resembles a tree and the SLIT table in Hewlett-Packard is a matrix. Examiner disagrees that the Cutler and Hewlett-Packard references teach away from each other.

Cutler is relied on to disclose collecting information system information [ACPI tables] at boot time, notifying an operating system that a triggering event has occurred and providing updated system information [dynamically updated ACPI tables] to the operation system during runtime [paragraphs 0048, 0125, 0129, 0134, 0135 and 0138]. Cutler does not disclose that the ACPI tables contain system locality information. Hewlett Packard is relied on to disclose ACPI tables which contain system locality information [SLIT's] and that the SLIT's may be updated during runtime [pages 3-4]. It would have been obvious to one of ordinary skill in the art to apply the Cutler ACPI table updating teachings to ACPI system locality information tables in order to enable an operating system to enhance its ability to process locality information to increase its performance on a non-uniform memory access (NUMA) system [Hewlett-Packard, page 3].

Examiner agrees with Applicant that the composite database of information in Cutler resembles a tree and the SLIT in Hewlett-Packard is a matrix. However, the

SLIT table in Hewlett Packard is an actual ACPI table [page 3]. The composite database of information in Cutler is not an actual ACPI table. The composite database of information [element 206] in Cutler is merely a collection of information which is used to add information to the actual ACPI tables [element 208, paragraph 0039]. Therefore, the principles of operation of the Cutler and Hewlett Packard references are not different and the references do not teach away from each other.

The rejections to claims 1-20 are respectfully maintained.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL B. YANCHUS III whose telephone number is (571)272-3678. The examiner can normally be reached on Mon-Fri 10AM-2PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on (571) 272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Paul B Yanchus/
Examiner, Art Unit 2116

January 28, 2009

/Thomas Lee/
Supervisory Patent Examiner, Art Unit 2115